

### **REMARKS**

The obviousness type double-patenting rejections should be withdrawn in light of the terminal disclaimer attached herewith.

#### **Claim Rejections - 35 USC 102**

Claims 1, 5-14 and 21 were rejected as being anticipated by Karube. Claim 1 now contains the limitation of claim 3. Thus, this rejection should be withdrawn.

#### **Claim Rejections - 35 USC 103**

Claim 3 was rejected as being obvious over Karube in view of Bastiaans. This rejection is respectfully traversed.

The Examiner has acknowledged that “Karube does not specifically teach further incorporation of *a second piezoelectric resonator and an additional pair of electrodes having a non-functionalized surface coupled to the second piezoelectric resonator, wherein the control circuitry is configured to apply the excitation signal to the additional pair of electrodes and to determine a frequency response for the second piezoelectric resonator.*” See paragraph bridging pages 6 and 7 of the Action; emphasis added. Please note that “a second piezoelectric resonator and an additional pair of electrodes having a non-functionalized surface coupled to the second piezoelectric resonator, wherein the control circuitry is configured to apply the excitation signal to the additional pair of electrodes and to determine a frequency response for the second piezoelectric resonator” was the limitation of claim 3, now included in claim 1. To fill this gap in Karube, the Examiner relies on Bastiaans.

As explained in the Amendment filed July 20, 2006, Bastiaans discloses a second sensor 11 identical to sensor 10 except that sensing region 19 of the piezoelectric crystal 13 is prepared to be generally unreactive with any of the substances of the test solution (Bastiaans, col. 4, lines 55-61), making a non-functionalized surface on the sensing region 19 of the piezoelectric

crystal 13. In contrast, non-functionalized surface in the present invention is on the electrodes. Nowhere in Bastiaans is it disclosed that electrodes of the second sensor include a non-functionalized surface, as required in previous claim 3, now included in amended claim 1. As such, Bastiaans does not teach each and every element of previous claim 3. Therefore, Bastiaans does fill the gaps in Karube that the Examiner acknowledged with respect to previous claim 3, now included in amended claim 1.

Bastiaans also discloses that the first sensor 10 and the second sensor 11 are each coupled to their own wave generator 20 (i.e. control circuitry) with high gain RF amplifier, (Bastiaans, col. 4, lines 1-6, lines 55-64, Fig. 1). In contrast, the present invention discloses the use of one control circuitry to control both piezoelectric resonators when they are in use, such as in previous claim 3 ("the control circuitry is configured to apply the excitation signal to the additional pair of electrodes"). Nowhere in Bastiaans is it disclosed to use only one control circuitry for both sensors. As such, Bastiaans does not teach each and every element of previous claim 3, now included in amended claim 1. Therefore, Bastiaans does fill the gaps in Karube that the Examiner acknowledged with respect to previous claim 3, now included in amended claim 1.

Claim 4 was rejected as being obvious over Karube and Bastiaans in view of Yamada. This rejection is respectfully traversed and should be withdrawn as claim 4 depends from claim 1, which should now be allowable.

Claims 14-20 were rejected as being obvious over Karube. This rejection is respectfully traversed and should be withdrawn as claims 14-20 depend directly or indirectly from claim 1, which should now be allowable.

Claim 22 was rejected as being obvious over Karube in view of Lipskier. This rejection is respectfully traversed and should be withdrawn as claim 4 depends from claim 1, which should now be allowable.

Claims 23 and 24 were rejected as being obvious over Karube in view of Fendler. This rejection is respectfully traversed and should be withdrawn as claims 23 and 24 depend directly or indirectly from claim 1, which should now be allowable.

## Information Disclosure Statement

Applicants respectfully request that an initialed copy of the PTO-1449 filed with the Information Disclosure Statement on November 15, 2004 be returned indicating that the Examiner has reviewed the references submitted therewith.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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